



National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport

Towards further air quality improvement in the Netherlands

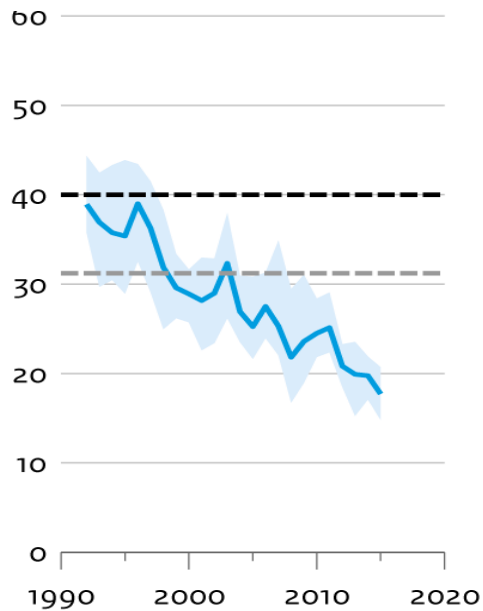
*Action program aimed at reducing health risks,
continuous improvement of air quality,
beyond stand-still, beyond AQLVs
and in the long run even beyond WHO AQGs*

*Rob Maas (RIVM)
9 May 2018*

Downward trend in PM10 exposure

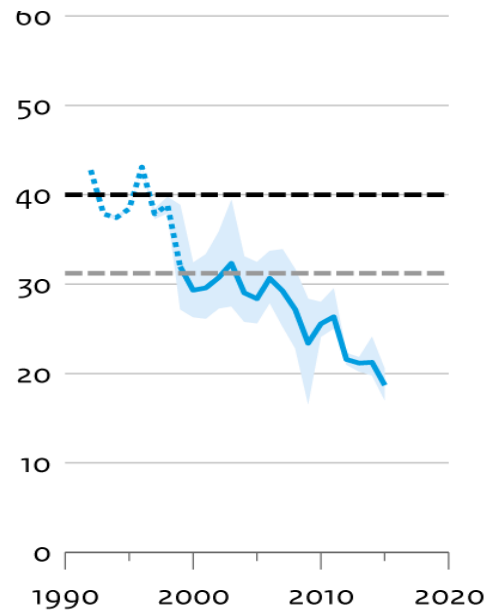
Regionale stations

Regional stations



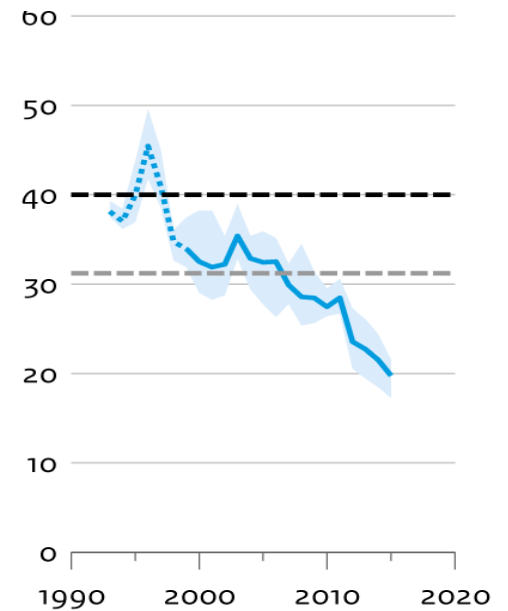
Stadsstations

Urban background stations



Straatstations

Traffic stations



— Gemiddelde

····· Gemiddelde van beperkt aantal meetstations

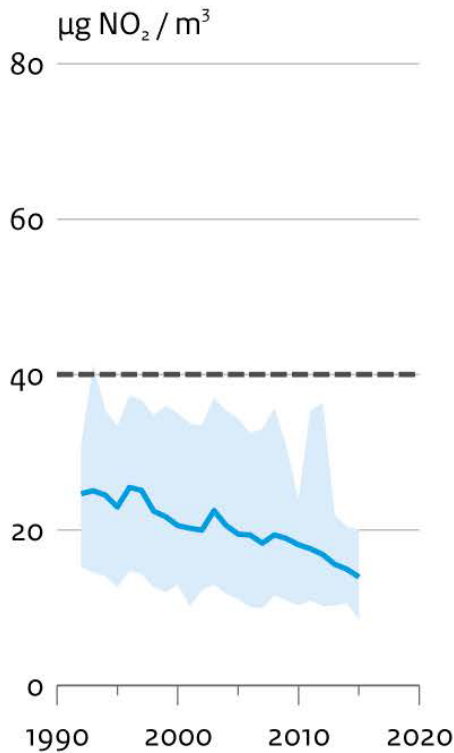
■ Spreiding

--- Grenswaarde jaargemiddelde

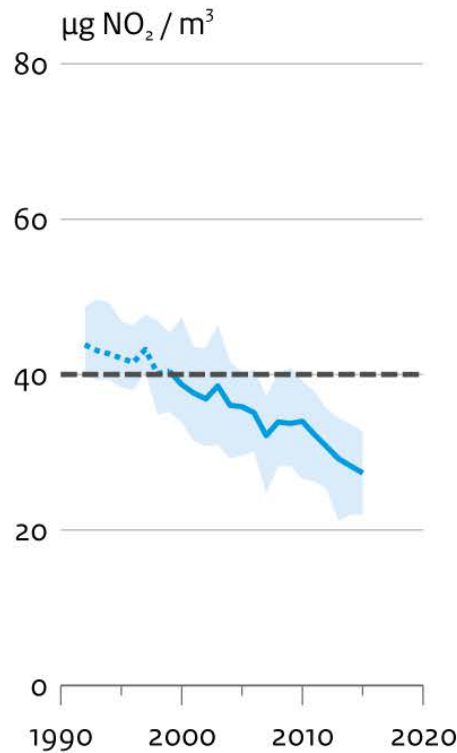
--- Grenswaarde dagnorm

NO₂-exposure in busy streets is a persistent problem

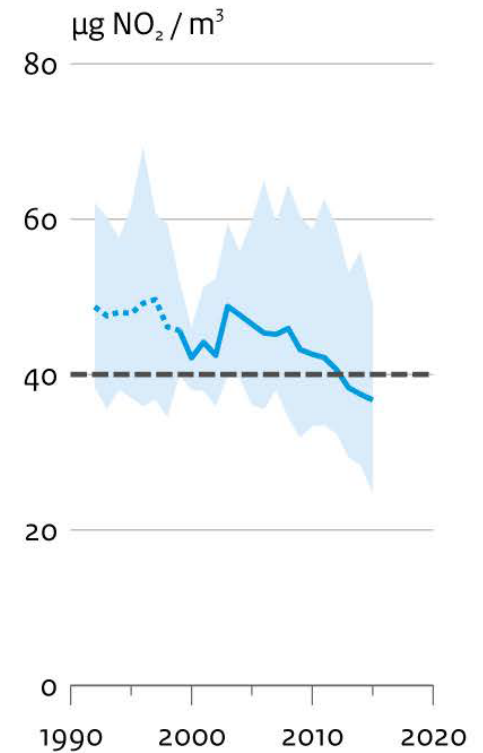
Regional stations



Urban background stations



Traffic stations



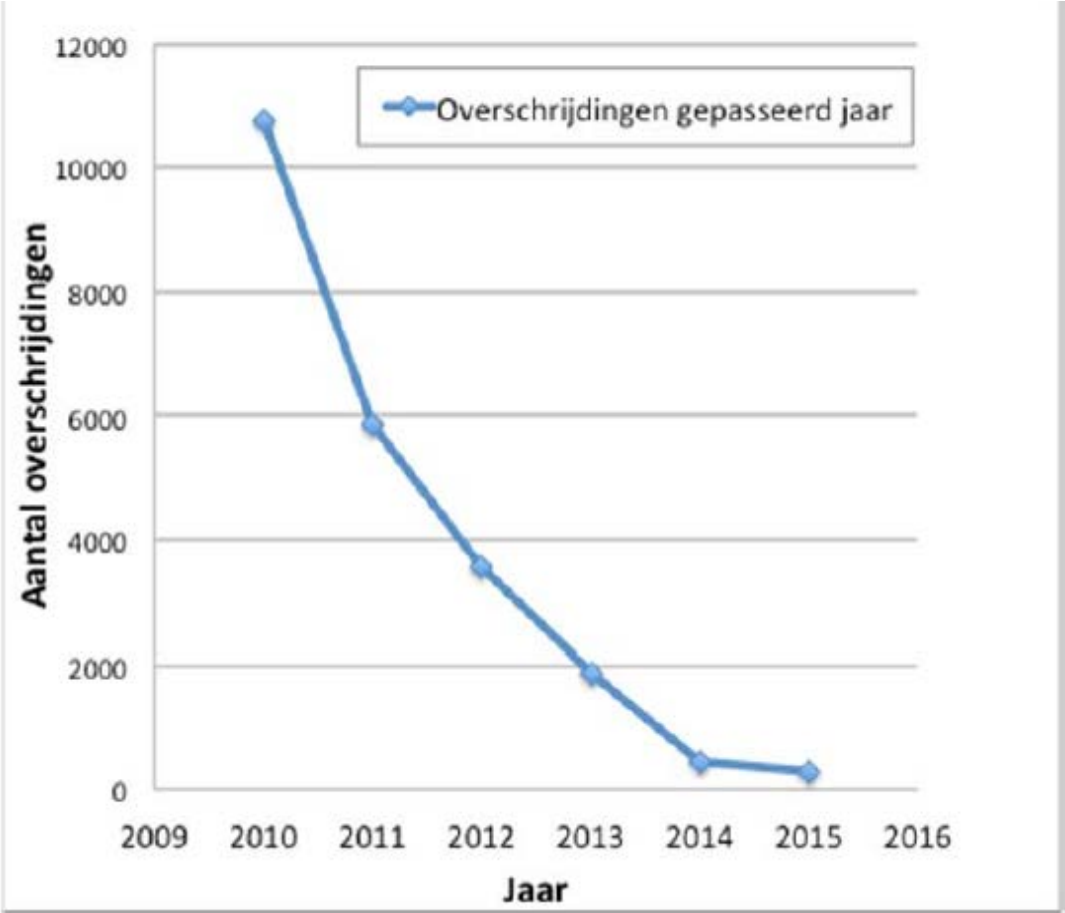
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■ Spreiding

--- Grenswaarde

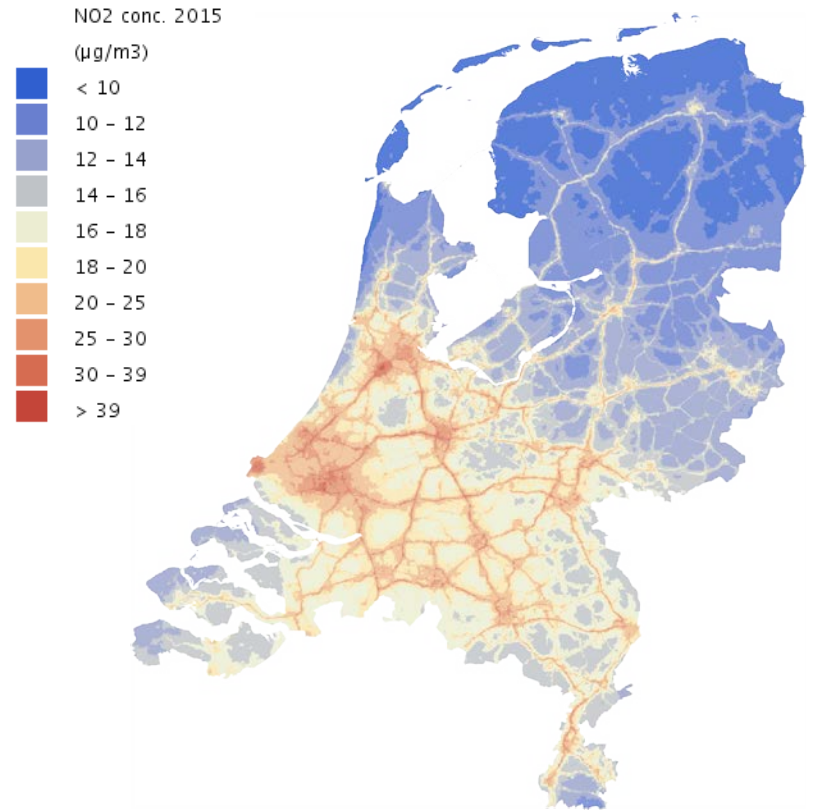
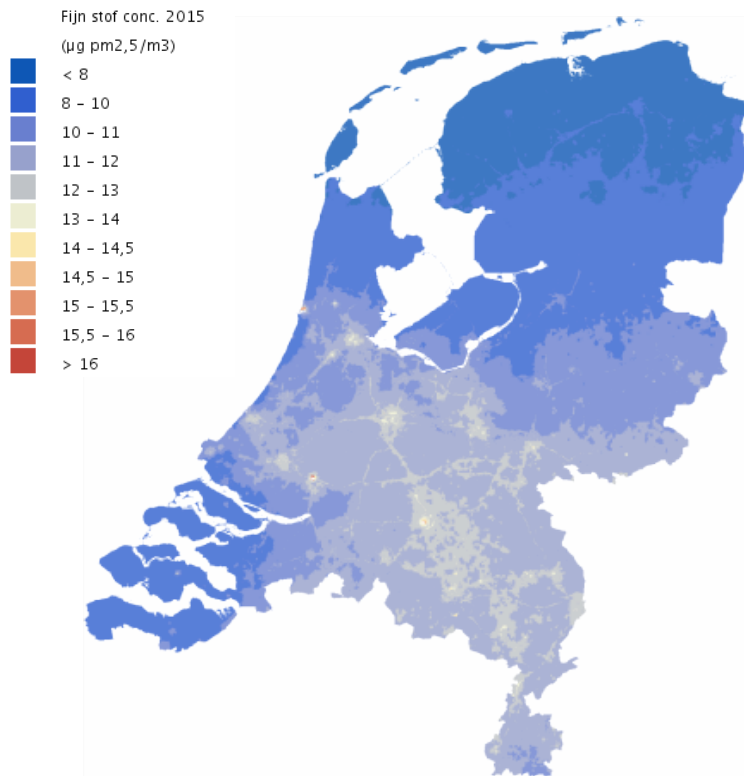
Substantial decrease in NO₂-exceedances



Source: RIVM

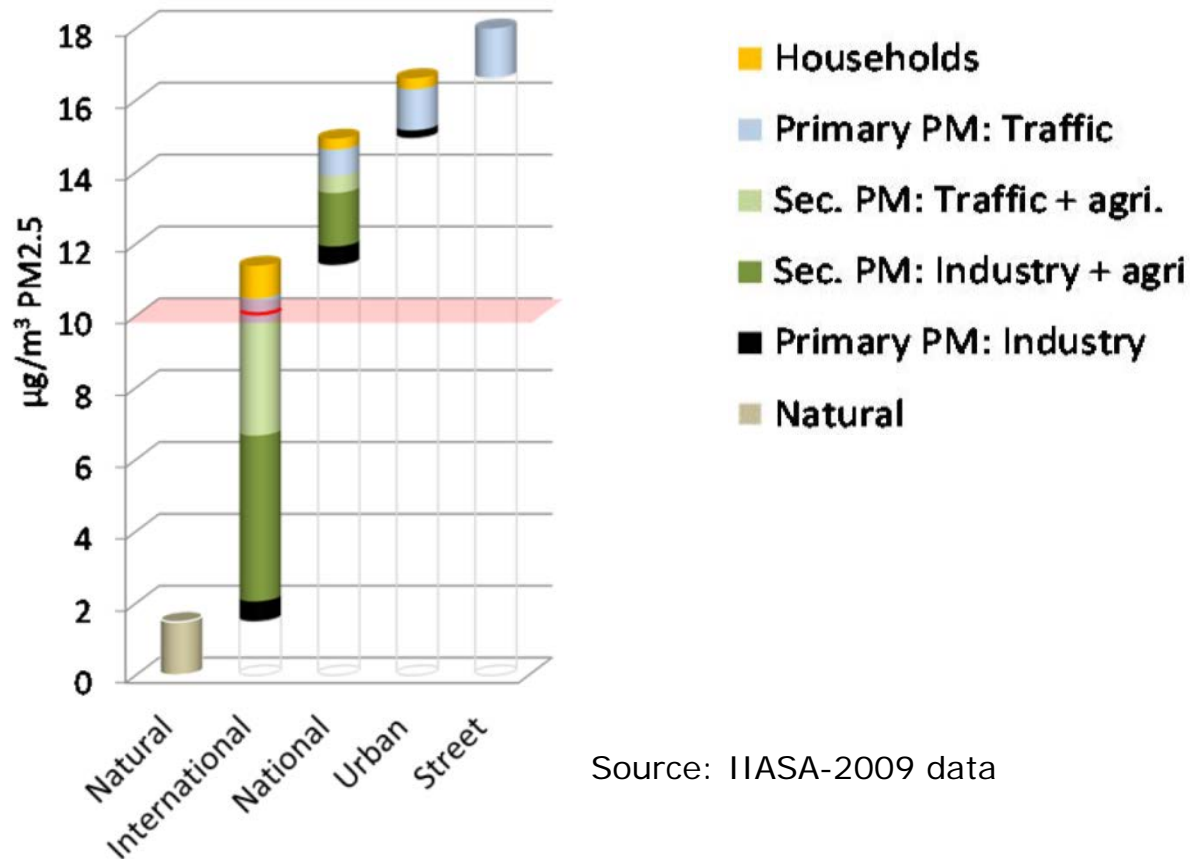
km roadlength with NO₂ exceedance

Air quality in 2015



Source: RIVM

PM2.5 exposure in busy streets: below EU-Limit Value but above WHO-Air Quality Guideline



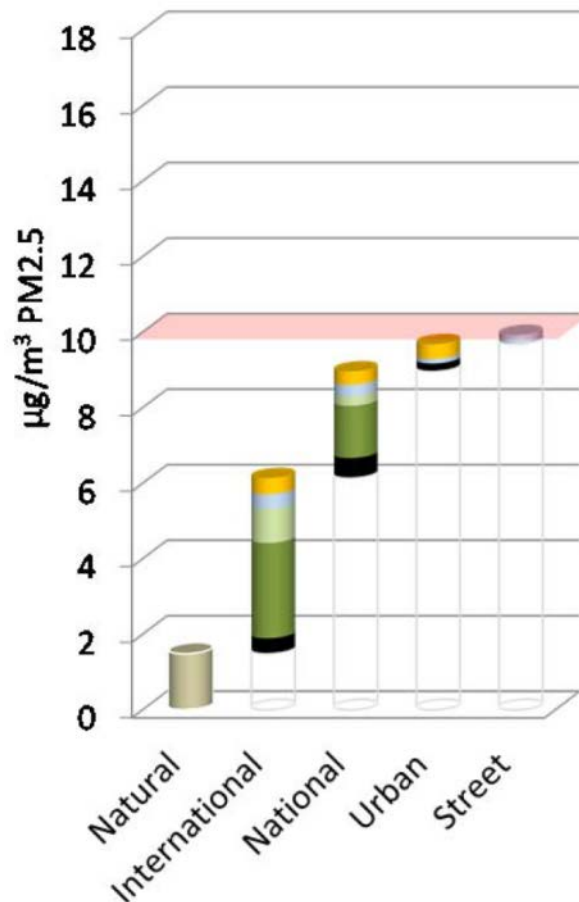
Source: IIASA-2009 data

Average source apportionment for traffic stations in the Netherlands

Feasibility of meeting WHO-air quality guidelines

= 3-4 months increase in average life expectancy

B. 2030 Commission Proposal (2013)



Actions needed at all levels:

EU

1. Implementation NECD & *real life* Euro-6 performance
2. Increase energy saving, wind, solar, hydro power
3. Emission standards wood burning, existing ships, low-emission manure application (Agri)

National

1. Enforcement Euro-6 standards, IED, Agri, etc
2. Early scrapping/retrofitting old vehicles, ships, installations
3. Green taxes, green infrastructure

Cities

1. Low emission zones, speed limits, zero-emission vehicles
2. Limit use of domestic wood burning, natural gas
3. Stimulate walking/cycling – healthy city design

In 2016: less ambitious NH3-reduction, but stricter emission standards for NRMM & MCPs

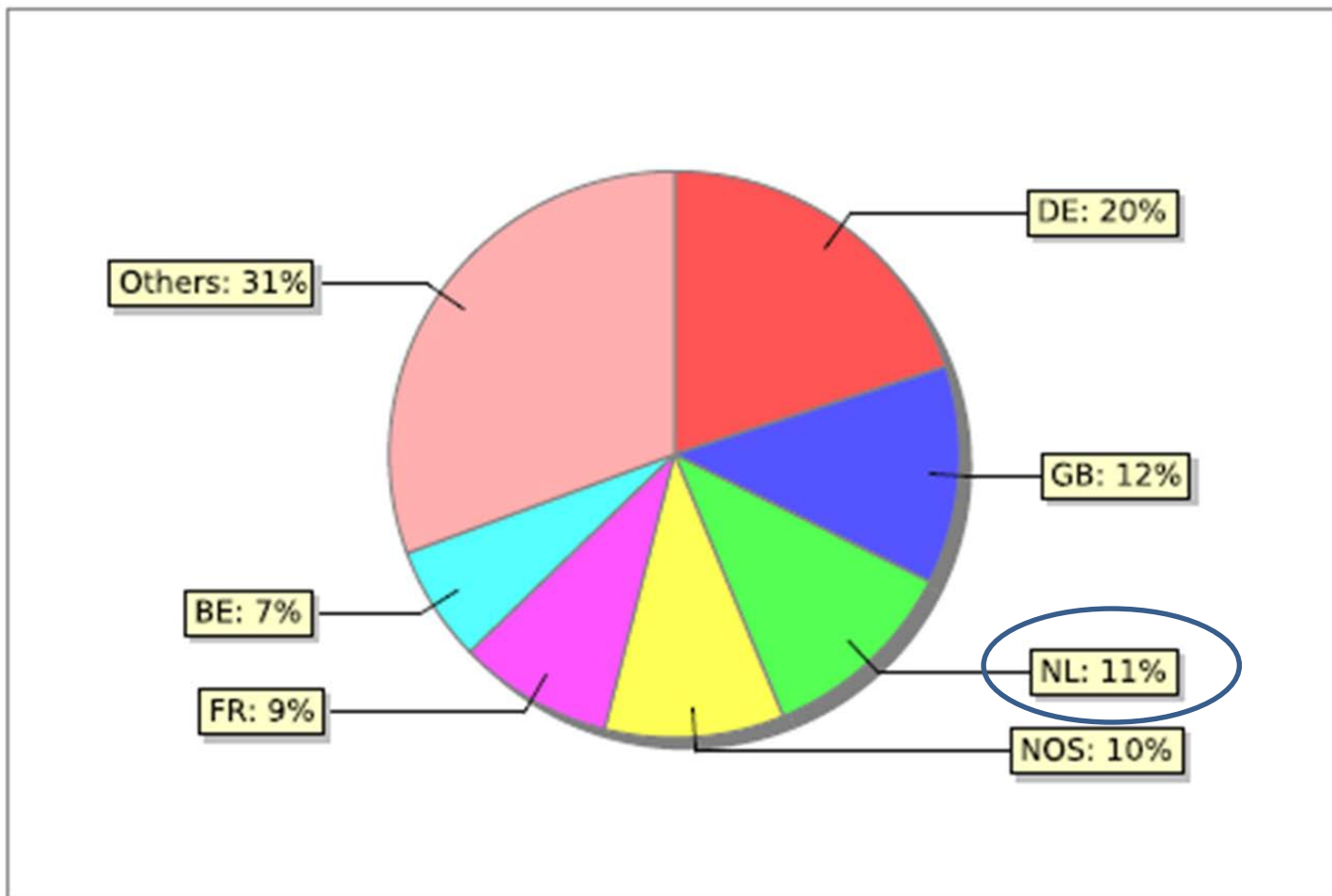
What is the scope for national measures?

Share of sectors in the average exposure from national sources

	PM2.5		NO ₂	
	2012	2016	2012	2016
Industry	11%	13%	7%	9%
Transport	51%	38%	79%	75%
Agriculture	20%	29%	2%	7%
Residential heating incl. offices and shops	18%	20%	11%	9%
Transboundary contribution		(60%)		(25%)

Source: RIVM

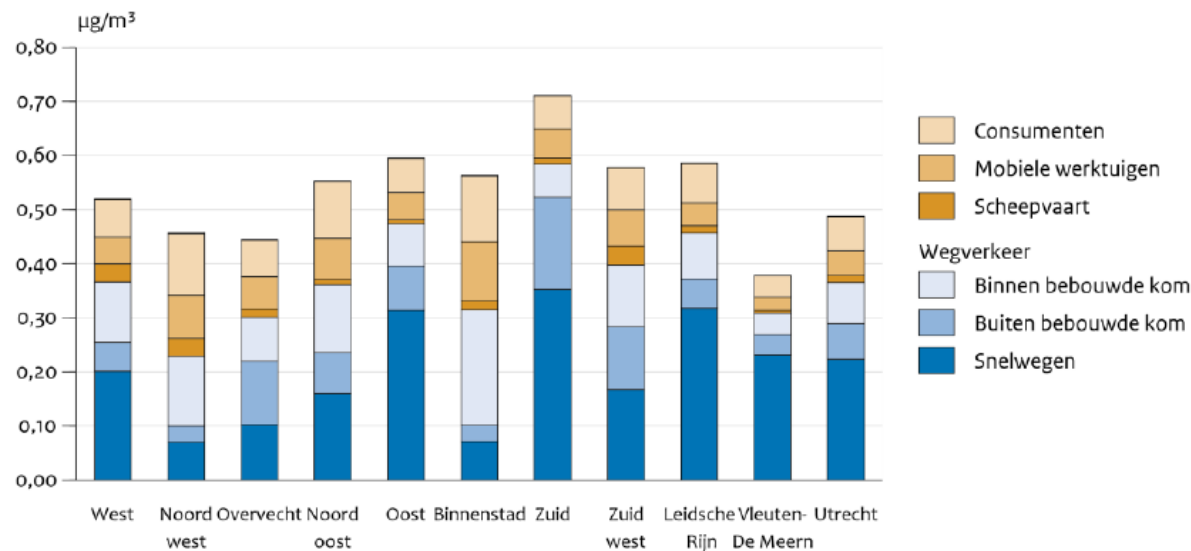
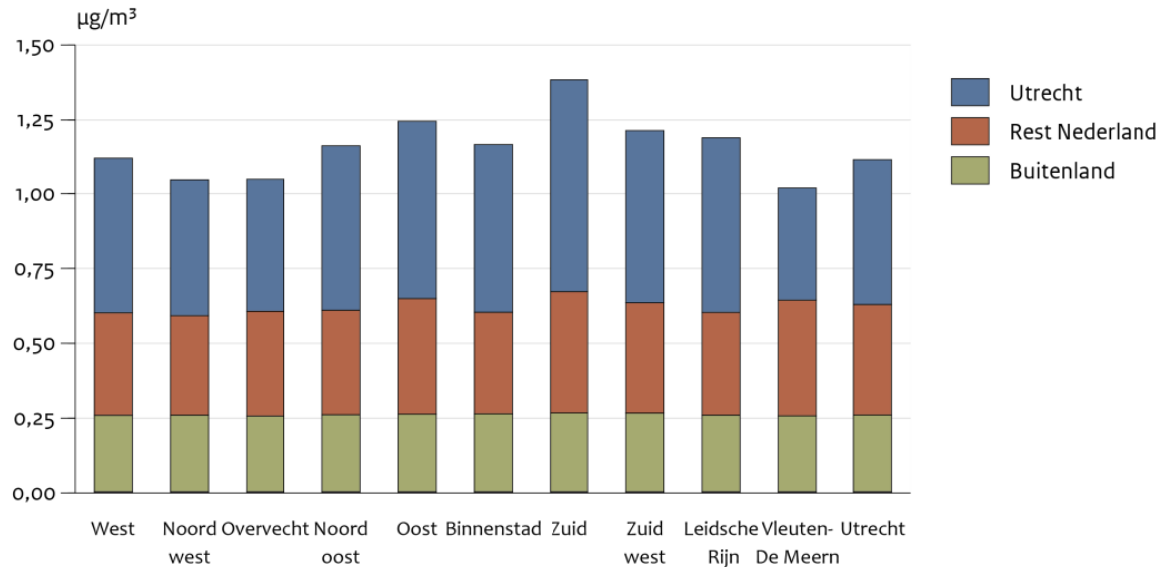
Large transboundary contribution to secondary PM2.5 concentrations in the Netherlands



Note that secondary PM is 70% of total PM concentrations

What is the scope for local measures?

(sources of EC-concentrations in Utrecht)



Which measures to take....

Preference for:

- Planting trees, installing vacuum cleaners, TiO_2
- Change the focus to ‘other’ sources: Fireworks, Eastern fires, road and tyre wear, UFPs

Avoiding unpopular but effective measures:

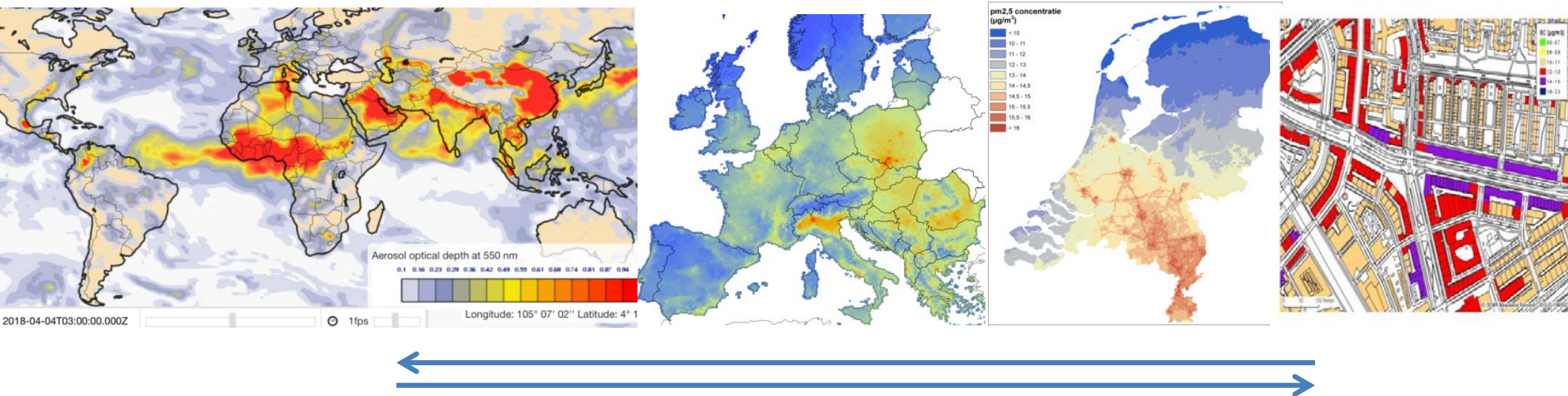
- Traffic restriction, speed limits, road pricing, fuel taxes, ban on wood stoves, agricultural measures

Compromises:

- Subsidies on EVs and new clean stoves, limited LEZs, parking tariffs, city design

Increasing complexity of air quality policy

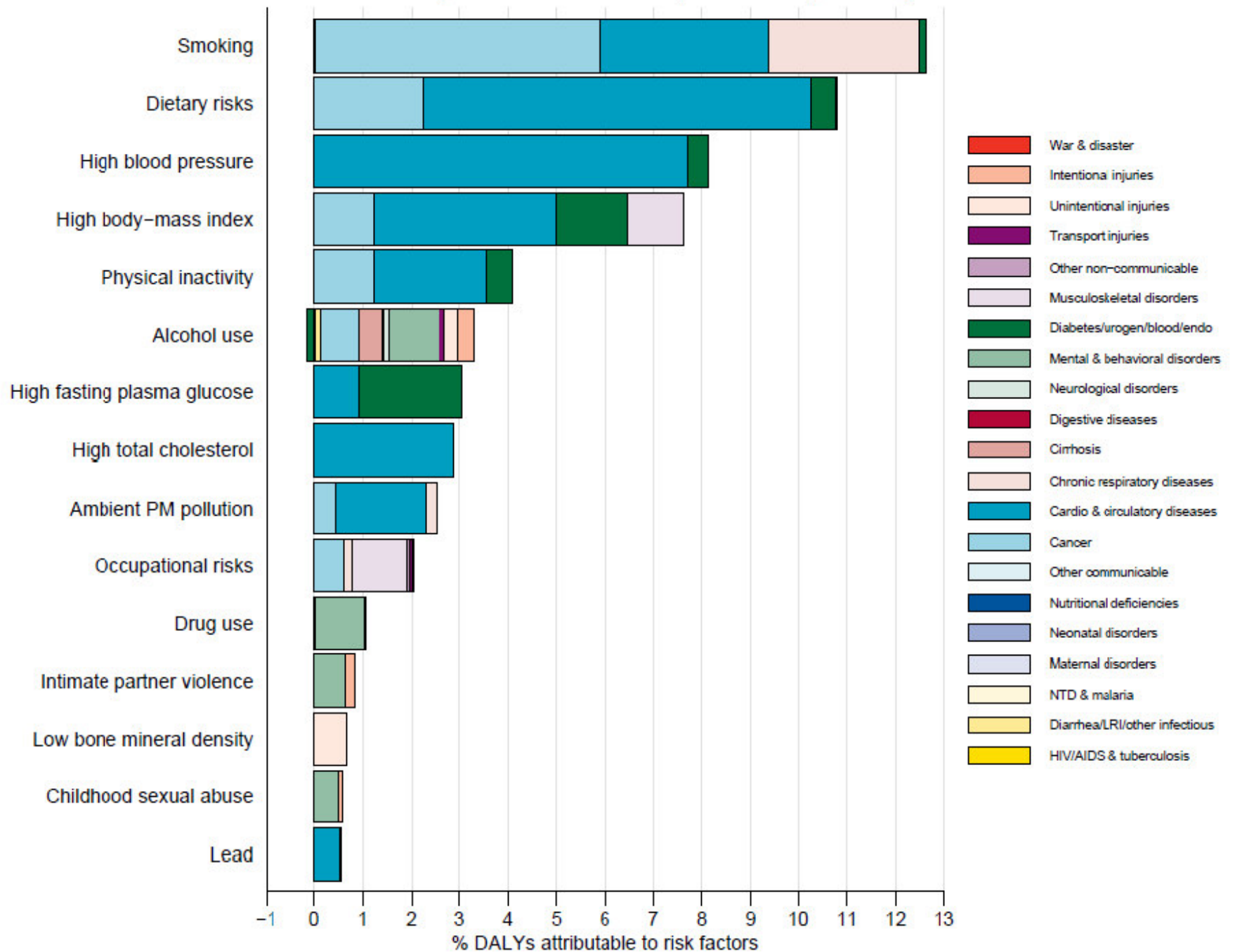
Linkages across governance levels:



Interactions with:

- Agricultural policy (including healthy diets)
- Energy and climate policy (including clean domestic heating)
- Transport policy and spatial planning (healthy mobility)

Burden of disease attributable to 15 leading risk factors in 2010, expressed as a percentage of Netherlands DALYs



Research challenges

- A GAINS-run with additional agricultural measures in the surrounding countries
- An acceptable set(s) of relative risk factors for PM_{2.5}, NO₂ and EC without double counting
- A consistent set of different health indicators: premature deaths, YOLL, LE, children with respiratory problems (= vulnerable group, or potential future premature deaths)